

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

Claims 1-17 (canceled)

18. (Currently Amended) A lithography apparatus comprising:

(a) a source producing a light beam having at least one wavelength within the an ultraviolet (UV) UV spectrum;

(b) a mask;

(c) a substrate transparent to light in the UV spectrum and disposed in a path of the light beam; and

(d) an array of wire elements patterned on the substrate;

wherein the array of wire elements are divided into truncated wedge-shaped groups having parallel wire elements therein to polarize incident the UV light incident on the wire elements and to produce output light that is tangentially polarized about an axis at a center of the polarizer substrate, wherein adjacent truncated wedge-shaped groups are arranged around the axis, and wherein the parallel wire elements of each group are non-interlaced leaving an unpatterned transmission aperture at the center of the substrate.

19. (Currently Amended) The apparatus of claim 18, wherein the wire elements in said group each of the truncated wedge-shaped groups have a pitch of about one quarter of the wavelength of the beam of UV light.

20. (Currently Amended) The apparatus of claim 18, wherein the wire elements in said group each of the truncated wedge-shaped groups have a pitch between about 0.1λ and 2λ , where λ is the wavelength of the beam.

21. (Currently Amended) The apparatus of claim 18, wherein the wire elements have a thickness of between about 0.04 and 0.3 μm .

22. (Currently Amended) The apparatus of claim 18, wherein a material of the substrate includes fused silica, calcium fluoride, sapphire, quartz, or magnesium fluoride.

23. (Currently Amended) The apparatus of claim 18, wherein the UV light incident on the wire elements comprises at least two polarizations polarization directions and wherein the wire elements generally reflect most incident of the incident light of a first polarization direction and transmit most of the incident light of a second polarization direction.

24-25. (Canceled)

26. (Currently Amended) A lithographic apparatus for providing an exposure beam along an optical path comprising:

- (a) a wire grid polarizer;
- (b) an illuminator having a pupil, wherein at least a portion of the pupil passes light polarized by the wire grid polarizer; and
- (c) a mask;

wherein the wire grid polarizer comprises a substrate that is transparent to ultraviolet (UV) light and an array of concentric circular wire elements patterned on the substrate around an axis, leaving an unpatterned transmission aperture at a center of the substrate, that polarize the wire elements polarizing UV light incident on them, and produce producing radially polarized output light.

27. (Canceled)

28. (Currently Amended) The apparatus of claim 20, wherein the wire elements ~~of said group in each of the truncated wedge-shaped groups~~ have a pitch between about 0.1λ and 0.5λ , where λ is the wavelength of the beam.

29. (Currently Amended) The apparatus of claim 20, wherein the wire elements ~~of said group in each of the truncated wedge-shaped groups~~ have a pitch of about one quarter of a wavelength of the UV light.

30. (Currently Amended) The apparatus of claim 20, wherein the wire elements ~~of said group in each of the truncated wedge-shaped groups~~ have a pitch of between about 45 nm and 95 nm.

31. (Currently Amended) The apparatus of claim 18, wherein materials for the wire elements include aluminum, silver, or gold.

32. (Currently Amended) The apparatus of claim 18, wherein the incident UV light incident on the wire elements is substantially unpolarized.

33. (New) The apparatus of claim 18, wherein the wire elements in each of the truncated wedge-shaped groups have a varying pitch.

34. (New) The apparatus of claim 18, wherein the wire elements in each of the truncated wedge-shaped groups have a constant pitch.

35. (New) The apparatus of claim 26, wherein the concentric circular wire elements have a pitch between about 0.1λ and 2λ , where λ is the wavelength of the beam.

36. (New) The apparatus of claim 26, wherein the concentric circular wire elements have a pitch between about 45 nm and 95 nm.

37. (New) The apparatus of claim 26, wherein the concentric circular wire elements have a pitch approximately one-quarter of the wavelength of the beam.

38. (New) The apparatus of claim 26, wherein the concentric circular wire elements have a varying pitch.

39. (New) The apparatus of claim 26, wherein the concentric circular wire elements have a constant pitch.

40. (New) The apparatus of claim 26, wherein a material of the substrate includes fused silica, calcium fluoride, sapphire, quartz, or magnesium fluoride.

41. (New) The apparatus of claim 26, wherein materials for the wire elements include aluminum, silver, or gold.

42. (New) The apparatus of claim 26, wherein the UV light incident on the wire elements comprises at least two polarization directions and wherein the wire elements generally reflect most of the incident light of a first polarization direction and transmit most of the incident light of a second polarization direction.

43. (New) The apparatus of claim 26, wherein the UV light incident on the wire elements is substantially unpolarized.